



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,656	02/28/2002	Gart-Jan Heerens	P 290724 P-0241.010-US	2502

909 7590 03/22/2006

PILLSBURY WINTHROP SHAW PITTMAN, LLP  
P.O. BOX 10500  
MCLEAN, VA 22102

EXAMINER

ROSASCO, STEPHEN D

ART UNIT PAPER NUMBER

1756

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/084,656

Applicant(s)

HEERENS ET AL.

Examiner

Stephen Rosasco

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 2/1/06.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 and 22-25 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-5 and 22-25 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/12/05, 1/17/06.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### Detailed Action

In response to the communication of 7/29/05 and the IDS of 10/12/05 and 1/17/06, the examiner withdraws the prior office action rejections and includes new rejections here over newly cited art.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 22-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Korenaga et al. (5,608,773).

Korenaga et al. teach (see claims) a mask holding method for holding a mask vertically, against gravity, said method comprising the steps of providing a mask with a conical-hole portion, a V-groove portion and a flat portion;

first pressing the conical-hole portion among the three portions against a corresponding projection of a mask chuck, wherein the conical-hole portion is arranged to be the uppermost of the three portions on the mask; and

thereafter, pressing the V-groove portion and the flat portion against corresponding ones of three projections provided on the mask chuck, to hold the mask at the three positions.

And further comprising pressing the V-groove portion on the mask against a corresponding projection of the mask chuck after the conical-hole portion has been pressed against a corresponding projection of the mask chuck.

And further comprising vertically holding an X-ray mask for X-ray lithography against gravity.

Korenaga et al. also teach a mask holding method comprising the steps of: providing a mask with a conical-hole portion, a V-groove portion and a flat portion, the conical-hole portion being the uppermost portion on the mask; and engaging the conical-hole portion, the V-groove portion and the flat portion provided on the mask with three projections provided on a mask chuck and pressing them against each other, to vertically hold the mask at three positions against gravity.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korenaga et al. (5,608,773) or Novak (6,717,159).

Korenaga et al. is included here as recited above.

Novak teaches (see claims and Fig. 4) a chuck assembly for connecting an object to a movable frame and for limiting distortion of the object, the chuck assembly comprising: at least three first means for limiting motion of a point on the object to a single linear degree of freedom lying in a plane parallel to the movement of the frame; and at least three second means for limiting motion of a point on the object to at least three rotational degrees of freedom; said means cooperating to constrain the object in at least five degrees of freedom relative to the moveable frame while compensating for distortion inducing stresses.

And wherein said second means comprises: an upstanding protrusion secured to the frame through each of said first means; and a plurality of seats configured and dimensioned to be secured to the object, each protrusion being received in one said seat.

Art Unit: 1756

The teachings of Korenaga et al. or Novak differ from those of the applicant in that the applicant teaches that the mask is a reflective EUV mask.

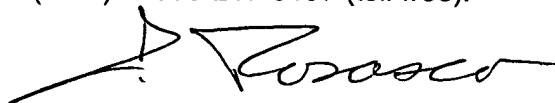
However, the x-ray mask or Korenaga is reflective short wavelength, i.e., X-ray mask. And it is well known that the reflective masks require the most critical alignment and position control because of the short wavelength. Therefore it would have been obvious to one having ordinary skill in the art to take the teachings of Korenaga et al. or Novak and use the mask for exposure with Euv lithography in order to make the claimed invention because it is well known that reflective masks require the best position control.

Applicant's arguments with respect to claims 1-5 and 22-25 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Stephen Rosasco whose telephone number is (571) 272-1389. The Examiner can normally be reached Monday-Friday, from 8:00 AM to 4:30 PM. The Examiner's supervisor, Mark Huff, can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



S. Rosasco  
Primary Examiner  
Art Unit 1756

S. Rosasco  
3/15/06